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ड्रिल — विशिष्टि
(दूसरा पुनरीक्षण)

Slot Drills with Parallel
Shank — Specification
(Second Revision)

ICS 25.100.20

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भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Cutting Tools Sectional Committee had been approved by the Production and General Engineering Divisional Council.

This standard was first published in 1971 and revised in 1991. This revision has been taken up based on the experience gained in using the standard.

In the preparation of this standard considerable assistance has been derived from ISO 1641-1 : 2003 'End mills and slot drills — Part 1: Milling cutters with cylindrical shanks', issued by the International Organization for Standardization (ISO).

Following changes have been made in this revision:

- a) Short series and standard series with plain parallel shank, flatted parallel shank and threaded shanks have been incorporated.
- b) Type E and Type F have also been included

IS 6388 : 1991 'Slot drills with morse taper shanks — Specification (*first revision*)' is another standard in this series.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off values should be the same as that of the specified value in this standard.

Indian Standard

SLOT DRILLS WITH PARALLEL SHANK — SPECIFICATION

(Second Revision)

1 SCOPE

This standard specifies the general dimensions and other requirements for the slot drills — short series and standard series with plain parallel shank, flatted parallel shank and threaded shank.

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this Indian standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

IS No.	Title
919 (Part 2) : 2014/ ISO 286-2 : 2010	Geometrical Product Specification (GPS) — ISO code system for tolerances on linear sizes — Part 2 : Tables of standard tolerance classes and limit deviations for holes and shafts (<i>second revision</i>)
1830 : 1982	Technical supply conditions for milling cutters (<i>second revision</i>)
7778 (Part 5) 2003	Small tools sampling inspection procedures: Part 5 Milling cutters (<i>first revision</i>)
8692 (Part 1) : 2004/ ISO 3338-1 : 1996	Cylindrical shanks for milling cutters: Dimensional characteristic for plain cylindrical shanks (<i>first revision</i>)
(Part 2) : 2013/ ISO 3338-2 : 2007	Dimensional characteristic of flatted cylindrical shanks (<i>second revision</i>)
(Part 3) : 2007/ ISO 3339-3 : 1996	Dimensional characteristic of threaded shanks

3 TYPES

Slot drills shall be of following types:

Type A — Slot drills with flat face, helical fluted with plain parallel shank

Type B — Slot drills with concave face, helical fluted with plain parallel shank

Type C — Slot drills with flat face, helical fluted with flatted parallel shank

Type D — Slot drills with concave face, helical fluted, flatted parallel shank

Type E — Slot drills with flat face, helical fluted with threaded shank

Type F — Slot drills with concave face, helical fluted with threaded shank

4 TERMINOLOGY

For the purpose of this standard, definition given in IS 1830 shall apply.

5 DIMENSIONS

The dimensions for slot drills, short series and standard series shall be as given in Table 1 read with Fig. 1.

6 TOLERANCE ON $-\ell$, L_1 AND L_2

All dimensions in millimetres.		
Range of Length		Tolerance on $-\ell$, L_1 and L_2
Over	Upto and Including	
—	6	± 0.5
6	30	± 1.0
30	80	± 1.5
80	180	± 2.0
180	—	± 2.5

7 MATERIAL AND HARDNESS

Material and hardness of slot drills shall be according to IS 1830.

8 GENERAL REQUIREMENTS

8.1 Unless otherwise specified, 'Type A' slot drills of short series with right hand helical flutes for right hand cutting shall be supplied.

8.2 For the requirements not covered in this standard, reference shall be made to 1830.

8.3 Dimensions for plain, flatted and screwed shanks shall be according to IS 8692 (Part 1), IS 8692 (Part 2) and IS 8692 (Part 3) respectively.

9 SAMPLING

The sampling and criteria of acceptance shall be according to IS 7778 (Part 5).

10 DESIGNATION

A slot drill with plain parallel shank of 'Type A' having diameter $D = 10$ mm of short series for right hand cutting, made from high speed steel and tool 'Type H' shall be designated as:

Slot drill parallel shank IS 6352 A 10 H Short

11 MARKING

11.1 Each slot drill shall be marked according to IS 1830.

11.2 BIS Certification Marking

11.2.1 Each slot drill may also be marked with the Standard Mark

11.2.2 The use of the Standard Mark is governed the provisions of the *Bureau of Indian Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

12 PRESERVATIVE COATING AND PACKING

Preservative coating and packing of slot drills shall be as given in IS 1830.

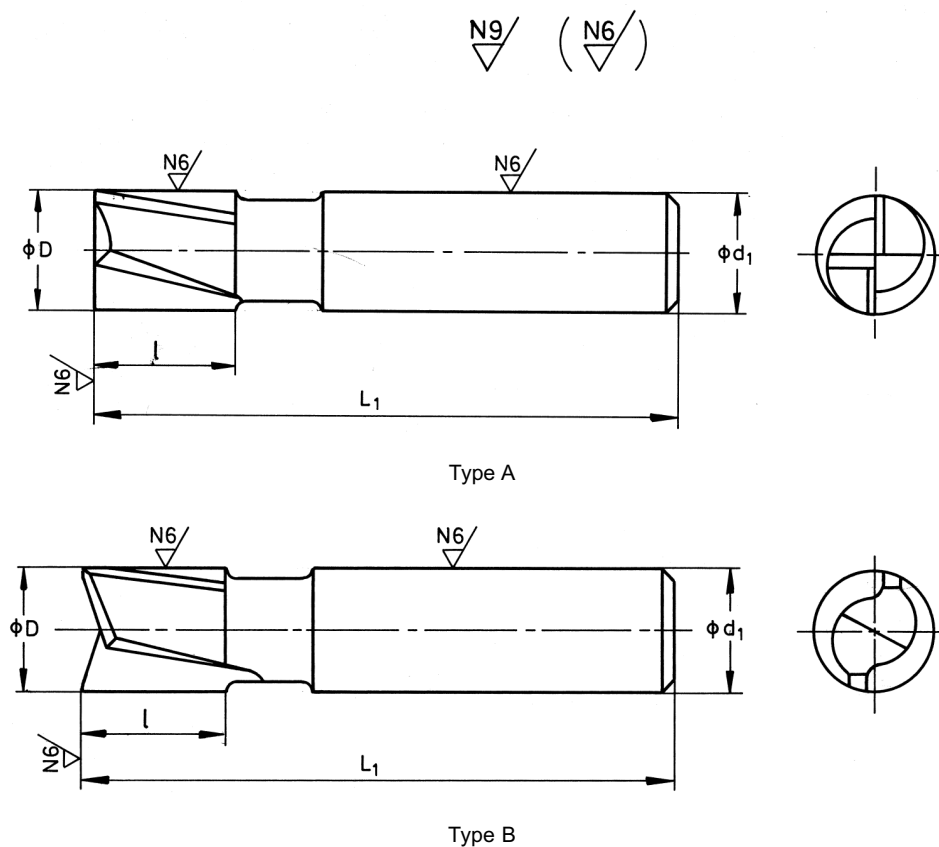
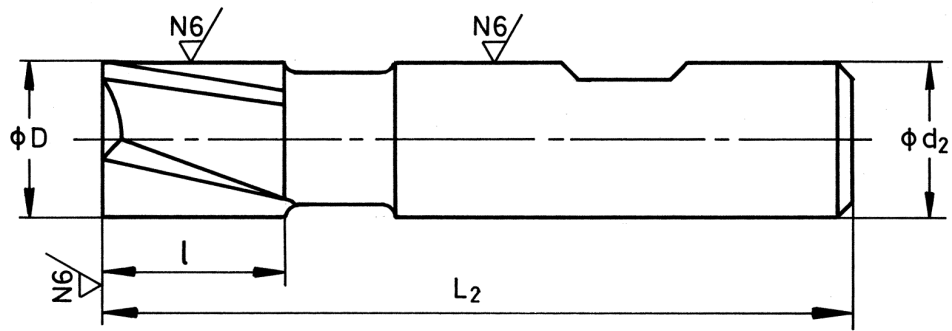
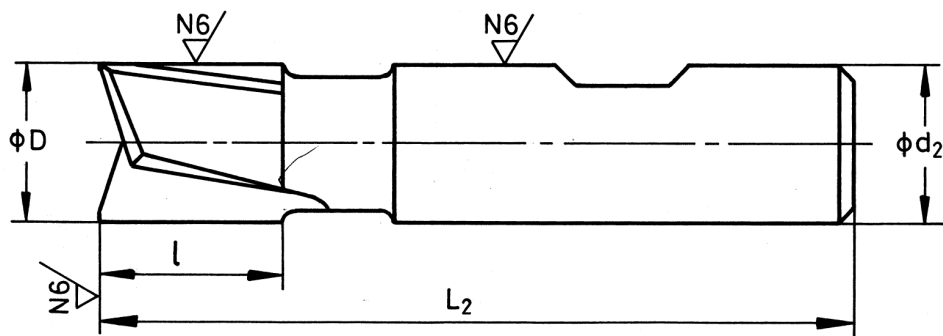


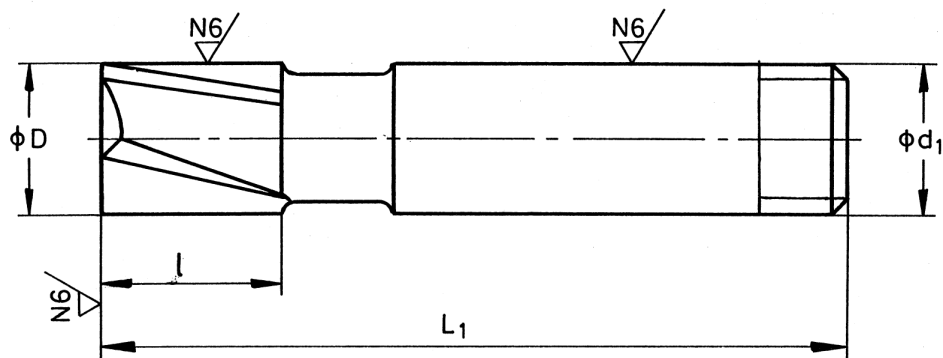
FIG. 1 DIMENSIONS FOR SLOT DRILLS WITH PARALLEL SHANKS — (Continued)



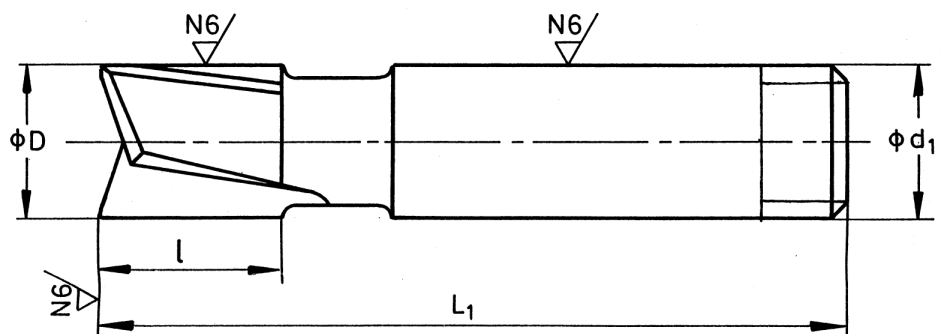
Type C



Type D



Type E



Type F

FIG. 1 DIMENSIONS FOR SLOT DRILLS WITH PARALLEL SHANKS

Table 1 Dimensions for Slot Drill with Parallel Shanks

(Clause 5 and Fig. 1)

All dimensions in millimetres.

Recommended Diameter <i>D</i> e8 ¹⁾	Range of Diameter <i>D</i>		Shank Diameter		Length						Tool Type
					Short Series			Standard Series			
	Over	Up to and Including	<i>d</i> ₁ h8 ¹⁾	<i>d</i> ₂ h6 ¹⁾	<i>ℓ</i>	<i>L</i> ₁	<i>L</i> ₂	<i>ℓ</i>	<i>L</i> ₁	<i>L</i> ₂	
2	1.9	2.36	4	6	4	36	48	7	39	51	H
2.5	2.36	3.0	4	6	5	37	49	8	40	52	
3	2.36	3.0	4	6	5	37	49	8	40	52	
3.5	3.0	3.75	4	6	6	38	50	10	42	54	
4.0	3.75	4.0	4	6	7	39	51	11	43	55	
—	4.0	4.75	5	6	7	41	51	11	45	55	
5	4.75	5.0	5	6	8	42	52	13	47	57	
6	5.0	6.0	6		8	52		13	57		
7	6.0	7.5	8	10	10	54	60	16	60	66	
8	7.5	8.0	8	10	11	55	61	19	63	69	
9	8.0	9.5	10		11	61		19	69		
10	9.5	10.0	10		13	63		22	72		
11	10.0	11.8	12		13	70		22	79		
12	11.8	15.0	12		16	73		26	83		
14	11.8	15.0	12		16	73		26	83		
16	15.0	19.0	16		19	79		32	92		
18	15.0	19.0	16		19	79		32	92		
20	19.0	23.6	20		22	88		38	104		
22	19.0	23.6	20		22	88		38	104		
24	23.6	30.0	25		26	102		45	121		
25	23.6	30.0	25		26	102		45	121		
28	23.6	30.0	25		26	102		45	121		
32	30.0	37.5	32		32	112		53	133		
36	30.0	37.5	32		32	112		53	133		
40	37.5	47.5	40		38	130		63	155		
45	37.5	47.5	40		38	130		63	155		
50	47.5	60.0	50		45	147		75	177		
56	47.5	60.0	50		45	147		75	177		
63	60.0	67.0	50	63	53	155	165	90	192	202	
71	67.0	75.0	63		53	165		90	202		
NOTE — <i>d</i> ₁ = Standard shank for plain parallel shank. <i>d</i> ₂ = Standard shank for flatted parallel shank.											

¹⁾ See IS 919 (Part 2)

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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